It appears that approximately 90 percent of the cable systems fall into a category that would fit the methodology described which would be fair to both consumers and investors. About 90 percent of cable systems are owned by other than the original builder, and assets on their books are greater than the original cost of tangible assets to the original builders. However, there are the other 10 percent which needs special attention. The other 10 percent of the systems to which we refer are those who were constructed and never sold and are currently owned and operated by the existing builder and owner of the system. In order to have a level playing field, the return allowed to be reflected in the price of service should be well above the average allowed for other systems in recognition of the need to achieve over the entire investment horizon a fair rate of return including the investment in early year losses.

One option would be to allow cable systems owners to document uncapitalized early year losses and unrecovered return on investment. This option also could be helpful to cable systems still held by the original owner because these owners are likely to have experienced early year losses and also have foregone early year returns of their investments while they were building up their subscriber base. These owners typically would have planned to recover these counts in later years. Allowing these losses and unrecovered returns be capitalized and added to the value of the tangible assets would benefit systems held by original owners as well as those held by new owners. Even with these adjustments, the resulting value of the company probably would fall far short of its market value. Cable systems still held by the original owner, or held by the current non-original owner for a substantial period (e.g., 10 years or more) may have no acceptable way of establishing a rate base comparable to that of a system that has been acquired in an arms length transaction within the last five to seven years (i.e., 1986 or later). The cable system's assets could be appraised but the value of the system depends on expected future net income. Given the new regulatory environment for cable systems, expected future net income is highly uncertain.

5. Prices Paid for Cable Systems Were Reasonable At The Time Of Purchase

Cable systems were purchased during the late 1980s and early 1990s for amounts that were several multiples of book value. As shown in the accompanying table, other cable systems were acquired for similar multiples of book: (1) Telecommunications Inc. purchased Westmarc Communications Inc. for 9.5 times book value; and (2) United Artists Communications purchased United Cable Television Corporation for 11.0 times book value. The accompanying table also shows that the prices paid for the companies that operated cable systems relative to their book value are within the range of price-to-book value for other companies operating in similar ("comparable") industries during the same period.

The term "comparable" is used in financial analysis as a synonym for similar. The "comparable" industries selected for the cable television industry include:

(1) Mobile Telephone
(2) Other Telecommunications
(3) Broadcasting (Radio and TV Stations)
(4) Leisure and Entertainment (TV, Movies, Radio, Video Retailers, Publishers, Movie Theaters, Video Games, Etc.)

The leisure and entertainment group of industries was selected because the companies in these industries compete with the cable television industry for the consumer's dollar and offer products and services that are substitutes for cable television (i.e., communications and entertainment products and services). Also, the investors who view communication and entertainment as strong growth industries and are seeking to make investments in these industries will compare the financial performance of companies in this "comparable" group to the financial performance of cable television companies.

The attached table presents the purchase (market) price, the book value of equity, and the market-to-book equity ratio for companies in the cable television industry and the "comparable" industries for acquisitions that occurred during the 1988-90 period. To the extent possible, the purchase price and book value of these companies have been verified from several sources including the companies' SEC filings. However, in cases where independent verification is not feasible, these numbers are taken from a single source (i.e., MergerStat Review). A total of 13 transactions have been investigated; 2 for cable television companies and 11 for companies operating in one or more of the "comparable" industries. For the non-cable companies in the table, the market-to-book ratio for these transactions ranges from 2.0 to 27.5. The market-to-book equity ratio for the cable television transactions are not low but are consistent with the price-to-book ratio for other companies in the entertainment and communications industries. The amounts paid for cable systems is reasonable in light of the other transactions that took place during this period.

OVERVIEW OF ACQUISITIONS DURING 1988-90			
Buyer (B)/ Seller (S)/ Line of Business (L)	**Market Price[1] (Mill $)**	**Book Value[2] (Mill $)**	**Market-To-Book Ratio (Ratio)**
B:Thames Television PLC S:Reeves Comm. Corp. L:TV Programming Studio	$92.5	$47.5	2.0
B:Four Staff Holdings Corp. S:New World Entertainment Ltd. L:Movie and TV Show Production	$107.4	$51.6	2.1
B:LDDS Comm. Inc. S:Advantage Companies L:Telecomm. Services & Magazines	$16.8	$5.8	2.9
B:Warner Comm. Inc. S:Lorimar-Telepictures Corp. L:Movie and TV Show Production	$1,182.0	$294.4	4.0
B:Blockbuster Entertainment Corp. S:Major Video L:Retail Video Rental	$81.8	$15.1	5.4
B:PacifiCorp S:Northwest Telecomm. L:Telecommunications	$160.0	$24.6	6.5
B:Tele-Comm. Inc. S:Westmarc Comm. Inc. L:Cable TV & Microwave Comm.	$131.3	$13.8	9.5
B:Sony Corp. S:Columbia Pictures Entertainment Inc. L:Movie & TV Show Production	$2,909.9	$311.4	9.6
B:Investor Group S:Malrite Comm. Group L:Operate Radio & TV Stations	$301.6	$29.6	10.2
B:United Artists Comm. S:United Cable Television Corp. L:Cable TV System	$1,315.4	$119.8	11.0
B:Advanced Telecomm. S:Galesi Telecomm. Inc. L:Telecomm. Services	$146.3	$9.7	15.0
B:Time Inc. S:Warner Comm. Inc. L:Movie, TV Show & Music Production	$11,650.3	$677.3	17.2
B:McCaw Cellular Comm. Inc. S:LIN Broadcasting Corp. L:TV Stations	$3,392.0	$123.3	27.5

Sources: (1) The Merger Yearbook: SEC Filings Form 10-K or Form 8-K: balance sheets just prior to merger.
(2) Mergerstat Review: Domestic 1990

6. Simplified Description Of The Cost Based Rate Of Return Approach

Cost based rate of return operates on the principle that regulators should set rates (prices) for the service being supplied by the regulated company so that the company has the opportunity to earn a rate of return on its invested capital commensurate with the risk assigned to the return on that investment by the financial markets. Investor perceptions of the relative risk of investing in a given company (or a type of enterprise such as cable television companies) ultimately determines the required rate of return (the cost of capital) for a given company. If a company is perceived to be riskier than average (e.g., the expected return on invested capital is more volatile than for a large group of companies such as those in the S&P Industrials[33]), then the market will demand an expected return on invested capital that is greater than that generated by the average company in the market. The average return on invested capital of a given company typically is estimated by the average return earned by a group of companies such as the S&P Industrials (formerly S&P 400). However, the group of companies selected to provide an estimate of the return required for a given company should be perceived by the financial markets to be similar to that regulated company (e.g., have similar risks).

In simplest terms, revenue requirements equal invested capital times the investor required return on capital (or the cost of capital). The formula used to determine revenue requirements is as follows:

RevReq = ReqRet x InvCap

where:

[33]In the NPRM, the FCC refers to the S&P 400 which is now called the S&P Industrials by S&P possibly because the group now includes approximately 380 companies.

RevReq = The revenue (measured in dollars) necessary to provide the required return on invested capital. These are the revenues required to service the company' debt (i.e., pay interest to pay income taxes, and to earn a return on equity capital.

ReqRet = The required return on invested capital (expressed as an annual percentage return on invested capital) which is determined by the financial markets -- also referred to as the cost of capital.

InvCap = The capital invested in the company (measured in dollars) which also is referred to as the rate base.

The revenue requirement typically is estimated in advance for future years. Therefore, the revenue requirement calculated may be for the next year (or for the next several years) which, in turn, requires that the required return on invested capital and the amount of invested capital must be estimated (projected or forecast) for the next year (or several years).

Rates for the service are set so that if the anticipated sales volume is realized (i.e., if the regulated company succeeds in selling the expected volume of services) and operating costs are kept to expected levels, then the company will earn its required revenue. However, these rates for the service will generate the required revenue only if the company succeeds in attaining its sales target and controls its costs (i.e., a revenue requirement will be earned only if the company is operated in an efficient and effective manner). The formula used to determine rates (prices) for a regulated service is as follows:

RevReq = Rate x Volume - Costs

or

$$\text{Rate} = \frac{\text{RevReq} + \text{Costs}}{\text{Volume}}$$

where:

RevReq = The revenue (measured in dollars) necessary to provide the required return on invested capital. These are the revenues required to service the company's debt (i.e., pay interest), to pay income taxes, and to earn a return on equity capital.

Rate = The rate (price) for the service being provided by the regulated company (e.g., annual subscriber charges for a cable television system measured in dollars per subscriber).

Volume = The volume (number of units) of service provided (sold) by the regulated company (e.g., the number of subscribers to a cable television system).

Costs = Total operating costs (measured in dollars) for the regulated company including depreciation and amortization costs (e.g., wages and salaries, purchased inputs, property taxes, franchise fees, depreciation and amortization, etc.) Interest expense and business income taxes are <u>not</u> included.

If rates are being set for a future year (e.g., next year or the next several years), then revenue requirements, costs, and volume must be estimated (projected or forecast).

While the calculations involved in establishing the revenue requirements and the rates (prices) for service necessary to allow the company the opportunity to earn the required revenue are straightforward, defining and measuring invested capital and the required return on that capital can be quite complicated. The key issues to be resolved in determining revenue requirements are:

- How much capital has been invested prudently in the company (i.e., what is the rate base)?;
- If the company is engaged in both regulated and unregulated activities, what percentage of the invested capital is devoted to providing the regulated service?; and
- What is the required rate of return on invested capital (i.e., the cost of capital)?

7. Rate Base Definition

7.A. The Initial Rate Base Value Should At Least Equal Invested Capital

The FCC has indicated a preference for defining the rate base to be the depreciated original cost of tangible (physical) assets employed to provide regulated cable television services (NPRM at ¶35 and ¶40). If the cable system is still held by its original developer, then the value of the tangible assets on the books may be their depreciated original value and no restatement would be necessary to comply with the FCC's recommendation. However, even if the cable system is still held by its original developer, the system's books may not contain the depreciated original value of all assets currently employed by the cable system to provide service.[34] If a system has

[34]While both cable systems and typical regulated industries (e.g., electric companies) keep their financial records in accordance with Generally Accepted Accounting Practices, (GAAP), GAAP is less specific than the uniform system of accounts used for the utility industry. Specifically, cable system records historically have not been kept with the view

been sold by its original developer, the second (and subsequent) owners typically value the tangible and intangible assets at the purchase price at the time of purchase. The tangible assets generally are assigned a value equal to their current market value which is a reflection of replacement costs[35] at the time of purchase reduced to reflect that the remaining useful lives of these assets is less than that of new assets. The value of acquired intangible assets also is determined at the time of purchase, such that the purchase price equals the market value of all assets (tangible and intangible). Intangible assets are composed of all elements of value not directly attributable to physical plant.

In the case of a cable system, intangible assets include the subscriber list, the franchise, the organization, the work force, and other intangibles that reflect the "going concern value" of the cable system. For an industry like cable television where a major investment must be made prior to beginning service, the operator will lose money and be unable to recover a return on investment prior to the system beginning operation. In addition, the cable operator expects not to be able to earn a return on investment for several years after a new system is built because even after a system is operational, it typically takes several years to build up a sufficient subscriber base to cover costs and allow the owner to recover a return on investment. Therefore, if the original system developer sells a cable system after it has begun generating a return on investment, the buyer will expect to pay more than simply the depreciated value of the tangible assets because the original owners investment is far greater than the outlay for physical assets. The original owner has endured start-up costs and the early years' operating losses and the inability to recover a return on investment prior to system operation and during the first several years of operation. Implicitly or explicitly, usually implicitly, the original owner will have capitalized the early year losses and the unrecovered return on investment and will expect to be paid for these intangible assets if the system is sold.

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that depreciated original cost rate base would have to be defined at some future date.

[35]If the tangible assets are obsolete, the value assigned would be less than replacement cost.

He will expect to eventually recover those foregone earnings either through future higher prices to subscribers or through the price he receives for selling the system.

There are two serious problems with the FCC's proposal to define the rate base as the depreciated original cost of the tangible assets employed by the cable system to provide cable services. The first, and ultimately most important, is that it would not allow many cable systems to earn a reasonable (competitive) return on invested capital, particularly those systems that have been sold by their original owner. At the time of sale, the market value of these cable systems was more than the depreciated original cost of their tangible assets. As previously pointed out, the purchase prices of these systems, relative to the book value of their assets, was not inconsistent with the amounts paid for other companies in similar (related) businesses. The prices paid for these cable systems do not reflect an anticipation of the ability to charge supra competitive (monopoly) prices and thereby earn excessive returns.[36] Instead, these purchase prices reflect a market value determined by willing and independent buyers and sellers engaged in arm's length negotiations. In such negotiations, buyers attempt to pay as little as possible while sellers seek to obtain as much as possible with the result usually being a "reasonable" value as determined by the workings of the market. There also is no indication of a 1920's-type chain of buyers and sellers of cable systems. In such a daisy chain, a group of market participants will buy and sell assets repeatedly to each other to artificially inflate the value of the assets. The only incentive for such activity at the time the transactions took place would have been to inflate stock prices, but such activity is prohibited by securities law and policed by the SEC. Therefore, there was no reasonable motive for a company to pay any more than necessary ("too much") for a cable system.

There is a second and very practical problem with defining the asset portion of rate base as the depreciated original cost of tangible assets; the original cost of these

[36]The earnings performance of the publicly traded cable systems clearly does not show the realization of monopoly rents.

asset is not known for most cable systems.[37] Further, when the original cost is not known, the amount of depreciation also is not known. Restating cable companies assets in depreciated original cost terms would be a major task for most cable systems that could take many years to complete. Either old records would have to be found and tabulated, or an original cost study would have to be undertaken. The utility industry has experience doing original cost studies as described above. Assets currently in use would have to inventoried, their date of installation would have to be established, their original cost would have to be estimated, the percentage of their life still remaining would have to be estimated, and depreciation based on original cost would have to be estimated. Given all the estimation that would be required to determine the depreciated original cost of tangible assets, the process probably would be contentious requiring that the FCC intervene to resolve numerous methodological and procedural issues. Given the relatively short life to cable television assets, it is entirely possible that the assets at issue would be retired and replaced before the process is complete. Immediate movement to an original cost rate base would involve this needless contention and litigation.

7.B. Original Cost Valuation is Used Only by Regulators

Cable television systems were essentially not price regulated from 1986 until the Cable Act of 1992 was enacted. However, even prior to 1986, these systems were never subjected to depreciated original cost rate making. In an environment where prices are not regulated, there is no reason to expect that the market value of an asset will bear any particular relationship to book value. Ongoing inflation, if nothing else, renders book value meaningless outside the strict original cost and rate base regulatory environment.

The value of a company, while it includes the market value of its tangible assets, often is substantially higher than the value of these physical assets. Ultimately, the value of a company equals the expected present value of the future income stream that the

[37]AUS Consultants survey of cable system operations.

business will generate. If a company is valued above the value of its tangible assets, this does not imply that the company is overvalued or that the buyers made a mistake and paid too much. The FCC's use of the term "excess acquisition costs" (NPRM at ¶36) is unfortunate because it creates the incorrect impression that the buyers of the cable systems paid an unrealistically high price.[38]

Intangible assets have real value. If the sellers of these cable systems had not demanded payment for the intangibles, they would have been asking "too little."[39] While the FCC can implement a transition to original cost accounting, the transition cannot be instantaneous.

Companies are routinely valued above book value as shown below:

[38]The Commission does say in an accompanying footnote that this is not necessarily the use (NPRM at f.n. 40)

[39]For a discussion of the value of intangibles, see Gordon V. Smith and Russell L. Parr, Valuation of Intellectual Property and Intangible Assets, John Wiley and Sons, New York, 1989.

1992 Year-End Market-to-Book Ratios

Group	Market to Book Ratio Excluding Companies in Group With Negative Book Equity
S&P Industrials	2.9
S&P Group of 70[1]	2.7
Telecommunications[2]	1.8
Recreation Industry[3]	3.3
Broadcasting[4]	2.9

Sources: (1) Value Line Investment Survey
(2) Compustat Services, Inc.

1 A group of 70 S&P Industrial companies selected to have similar risk measures as the cable companies analyzed by Value Line.

2 Value Line's Telecommunications group.

3 Value Line's Recreation industry group.

4 Value Line's Broadcast group.

7.C. Valuing the Components of Rate Base: Tangible and Intangible Assets

Tangible Assets

Tangible assets are sold at market value in a nonregulated environment. Tangible assets often appreciate in value and are often sold for amounts substantially in excess of depreciated original cost. The workings of inflation alone will increase the price of a tangible asset above book value.

However, the value of a used physical asset depends on the strength of demand for that asset relative to the supply of the asset. If there is excess demand for a given type of physical asset, the used asset price can be more than the new asset price. The

price that buyers are willing to pay depends on their expectation regarding the income the asset will generate. The process that establishes the market of a physical asset has nothing to do with book value.

Intangible Assets

The intangible assets relevant to defining the rate base for a cable system are:

- the subscriber list;
- the franchises;
- early period operating losses;
- unrecovered returns; and
- residual intangibles

Intangible assets, ultimately, are valued the same way as tangible assets. A buyer will be willing to pay the discounted present value of the stream of income that can be expected as a result of acquiring the asset. Valuing intangibles properly is no more difficult to accomplish than the valuing of tangible because both should be valued using the same approach. It is not necessarily any harder to attribute income to specific tangible assets than it is to specific intangible assets. This is due to the fact that none of the assets individually probably can generate income. The physical assets, while necessary to provide service, cannot do so without the going concern value associated with the organization. Income is generated because of the entire organization and not because of any specific asset.

Valuing a Business and its Underlying Assets

When a operating business (e.g., a cable system) is sold, its sales price is established through arm's length negotiations between the buyer and seller. Ultimately, the sales price for the business is based on the expectations that the buyer and seller have regarding the net income that can be generated by the going concern and the risk that they associate with the expected net income stream. The value (sales price) of a business (i.e., going concern) results from its underlying tangible and intangible assets.

The combined value of all intangible assets often is referred to as the going concern value of a business. In the case of a cable system, going concern value stems from the fact that there are paying subscribers (i.e., the subscriber list), that the system is operating and passes other potential subscribers' homes (i.e., franchise value), that by purchasing an operational cable system the buyer can avoid early period losses and unrecovered returns, and that the business is organized and operational (i.e., the value of having an established organization, a trained and functional workforce, etc.).

Attributing (or allocating) a negotiated sales price to the tangible and intangible assets comprising a business that was sold is something that is routinely done by business appraisers. However, one must keep in mind that the buyer buys an ongoing business entity whose value to the buyer depends on the future net income that the business is expected to generate and the risk associated with that income stream. The allocation of the sales price to the underlying tangible and intangible assets is based on an attribution of that expected net income and risk to specific assets (or groups of assets).

Attachment 1 presents an illustration of an arm's length sale of a hypothetical cable system and the subsequent valuation of the underlying tangible and intangible assets. The sale is assumed to take place at the end of the 5th year of system operation. At this time, the maximum penetration of 72.5 percent is assumed to have been attained. The original owner's initial investment was assumed to be $1,140,000 (see page 1 of Attachment 1). The assumption is that cable was laid initially throughout the franchise area so that new cable need not be laid to service new homes that are built. The original cable system had 40 channels: 15 Tier 1 (off-the-air) channels; 15 Tier 2 (satellite) channels; and 10 premium/pay-per-view channels. All cable system subscribers have access to the Tier 1 channels, and 90 percent of all subscribers are assumed also to subscribe to the Tier 2 channels. Initially, 30 percent of the subscribers are assumed to subscribe to premium/pay-per-view channels. By the 4th year of

operation, 60 percent of the subscribers are assumed to subscribe to the premium/pay-per-view channels (see page 2 of Attachment 1).

The effects of growth and inflation also are incorporated into the hypothetical example in Attachment 1. Households (i.e., the number of homes passed) are assumed to increase by 2 percent per year and all revenues and expenses are assumed to increase at the overall rate of inflation of 4 percent. At the end of the 5th year, 2000 homes are passed. Also at the end of Year 5, subscriber monthly fees for Tier 1, Tier 2, and the premium/pay-per-view (P/PPV) channels are $10, $11, and $16, respectively. Given that 100 percent, 90 percent, and 60 percent of the subscribers take the Tier 1, Tier 2, and P/PPV, respectively, the average monthly subscriber fee at the end of the fifth year is $29.50 ($10 x 1.0 + $11 x 0.9 + $16 x 0.6). Finally, at the end of the 5th year, the monthly other revenue per subscriber (for equipment, etc.) is $3. Therefore, the average total monthly revenue per subscriber at the end of the fifth year is $32.50.

Additional investment to modernize and upgrade the cable system is assumed to be required during the 6th through 10th year of system operation and again during the 16th through 20th year of operation (see "Additional Investment" on page 3 of Attachment 1). The quantifiable result of the additional investment during the 6th through 10th years is the addition of Tier 2 and P/PPV channels. Between the 5th and 10th years, the number of Tier 2 channels is expected to increase from 15 to 30, increasing by three each year during the 6th through 10th years, and the number of P/PPV channels is expected to increase from 10 in the 5th year to 15 in the 10th year increasing by one channel each year during the 6th through 10th year. The monthly subscriber fees for the Tier 2 and P/PPV services also will be increased by 45 cents per year (in 5th year dollars) during the 6th through 10th year as the number of channels increases. By the 10th year, the monthly fee for Tier 2 and P/PPV services will be $2,25 higher (in 5th year prices) than it was in the 5th year. Therefore, in 5th year prices, the monthly subscriber fee in the 10th year for Tier 2 would be $13.25 for 30 channels (or $0.44 per channel) versus $11.00 for 15 channels in the 5th year (or $0.73 per channel).

Similarly, in the 10th year, the P/PPV monthly fee would be $18.25 (in 5th year prices) for 15 channels (or $1.22 per channel) versus $16.00 for 10 channels in the 5th year (or $1.60 per channel). The nominal (current year prices) charged for the Tier 2 and P/PPV services during the 6th through 10th year (see page 2 of Attachment 1) also reflect the ongoing inflation rate of 4 percent per year (e.g., by the 10th year, the 45 cent increase in 5th year prices becomes 55 cents in the 10th year prices).

There are various other assumptions underlying the hypothetical scenario presented in Attachment 1 as follows:

1) System investment by the original and new owner is assumed to be financed with 50 percent debt and 50 percent equity. An 8 percent debt rate and a 16 percent after-tax rate of return on equity is assumed. Given an assumed business (corporate) income tax rate of 40 percent, the implied pre-tax overall cost of capital is 17.33 percent.

2) Tangible assets are depreciated at a 10 percent rate (i.e., depreciation equals 10 percent of the net tangible plant at the end of the previous year).

3) Intangible assets are fully amortized over a 10-year period (i.e., the initial value of the intangibles is written off in 10 equal decrements).

4) Debt is assumed always to equal 50 percent of net tangible and intangible plant. Therefore, as the plant is written off (i.e., depreciated or amortized), debt is assumed to be retired to keep the debt and equity shares always equal to 50 percent.

The original system owner, rather than make the requested additional investments in the system, is assumed to have decided to sell to a new owner with the intent of obtaining a price that will generate an after-tax return on equity for the five-year

ownership period of 16 percent (see page 4 of Attachment 1). To attain a 16 percent after-tax return on equity over Years 1 to 5, the original owner (i.e., the seller) wants to sell the cable system for $1,340,000.

However, the actual sales price will be determined by arm's length negotiations between the buyer and seller. Given the after-tax profit stream that the new owner (i.e., the buyer) can expect from the system (see page 4 of Attachment 1) the buyer can only pay $1,310,000 if he wants to earn a 16 percent after-tax return on equity.

We have assumed that the arm's length negotiation results in a price that is halfway between what the seller wants to receive and what the buyer wants to pay or $1,325,000. At this sales price, the original owner earns an after-tax return of equity over Years 1 to 5 of 15.9 percent and the new owner earns an after-tax return over Years 6 to 20 of 15.8 percent (see page 4 of Attachment 1).

Under the scenario shown in Attachment 1, the new owner paid $1,325,000 for the original owner's equity which had a book value of $336,579. Therefore, the purchase price was 3.9 times the book value of equity (see page 4 of Attachment 1).

The new owner paid $1,325,000 for the original owner's equity interest in the cable system and assumed $336,579 in debt obligations for a total system cost of $1,661,579 (page 4 of Attachment 1, "New Owner Basis"). Page 5 of Attachment 1 assigns a value to the tangible and intangible assets acquired. The assigned asset value reflects the portion of the after-tax income stream that can be attributed to the various types of assets.[40]

[40]In the calculations presented on pages 1 to 4 of Attachment 1, tangible assets are valued at original cost less accumulated depreciation and intangible assets are assigned an initial value (at the time of acquisition by the new owner) equal to the difference between the total system cost and the depreciated original cost value of the tangible assets.

In calculating the value of the tangible and intangible assets, houses passed, subscriber counts, penetration assumptions, and monthly subscriber fees for the Tier 1, Tier 2, and P/PPV services are the same as used in the scenario presented on pages 1 to 4 of Attachment 1.

The revenue due to the subscriber list is assumed to be the revenues obtained from the subscribers at the time of acquisition (the "old" subscribers on page 5 of Attachment 1). Ten percent of these "old" subscribers are assumed to drop the service each year so that there are no more "old" subscribers after the new owner has operated the system for 10 years (i.e., after Year 15 in the hypothetical). "New" subscribers are defined to be the difference between total subscribers (which are assumed to be 72.5 percent of the homes passed) and "old" subscribers. The annual revenue for "new" and "old" subscribers is determined by multiplying the subscriber counts by service penetration and by the average monthly revenue per subscriber multiplied by 12. The revenue generated from "new" subscribers is attributed to the franchise (i.e., this is revenue that is generated as a result of having the franchise). The risk associated with the revenue stream from the "old" subscriber is less than that associated with the revenue stream from the "new" subscribers. The overall pre-tax cost of capital (discount rate) of 17.33 percent is assumed to be associated with the "old" subscriber revenue stream. The "new" subscriber revenue stream is assumed to have a 5 percent higher discount rate (pre-tax cost of capital) of 22.33 percent. Conversely, the revenues expected from the tangible assets have lower risk. The pre-tax cost of capital for the tangible assets obtained by the new owner at the time of acquisition is assumed to be 5 percent less than the average pre-tax cost of capital or 12.33 percent. The "net" tangible plant shown on page 5 of Attachment 1 is the depreciated value of the net plant obtained from the original owner and excludes the net plant added by the new owner.

The discounted pre-tax revenues from "old" subscribers (subscriber list), "new" subscribers (franchise value), and tangible assets are shown in the upper left-hand panel on page 5 of Attachment 1. Cost (defined as operating expenses, depreciation, and

amortization) is set to 50 percent of pre-tax revenues.[41] The business (corporate) income tax rate is assumed to be 40 percent. The after-tax value of the tangibles and intangibles is equal to the after-tax discounted profits.

The underlying asset values implied by the revenue generated from the "old" subscribers, "new" subscribers, and tangible assets is as follows:

Assignment of Total System Costs to Tangible and Intangible Assets

Tangible Assets	$107,497
Intangible Assets	
Subscriber List	$646,394
Franchise List	$530,819
Other Going Concern Value	$376,876
Total System Cost	$1,661,579

The other going concern value component of $376,876 includes at least partial compensation for early year operating losses and unrecovered return on investment. As shown on page 3 of Attachment 1, the original owner lost a total of $112,905 during the first two years. The payment for unrecovered return on investment is incomplete because the purchase price was slightly less than that required to generate a 16 percent pre-tax return on equity for the original owner after the first five years of operation.

The analyses for a hypothetical system presented in Attachment 1 could be replicated for actual sales transactions. Such analyses could be performed as a basis for establishing the intangible asset composition. The subscriber list and franchise value will comprise most of total intangible assets.

[41]This is the share of costs in revenues for the hypothetical scenario presented on pages 1 to 4 of Attachment 1.

The other going concern value components will be difficult to verify for actual cable system sales. The other going concern value includes capitalized operating losses and unrecovered return on investment. For a system that has been purchased, the operating losses avoided by the new owner by buying a already developed and operating system are part of the purchased intangible assets. A record of actual losses experienced probably has not been kept by the previous owner. Further, even if such records were available, it is unlikely that they would provide a clear picture of start-up period operating losses. Therefore, even systems still owned by the original owners, start-up period operating losses may not be identifiable.

To resolve the question of operating losses as an intangible asset, a pattern of "normal" operating losses could be estimated. The cable system can be classified as to type, size, houses potentially passed, and potential penetration. Given the classification of the cable system, "normal" loss estimates can be developed. These "normal" loss estimates would then be the basis for evaluating intangible assets related to capitalized operating losses. A spectrum of cable system classes can be developed along with their "normal" loss estimates. The purchase price places value on the fact that the purchaser avoids early year losses.

Even if the cable system is owned by its original developer, the question of the evaluation of start-up operating losses as intangible assets still remains. For all cable systems, whether still in the hands of the original developer or having changed hands, operating losses incurred should be capitalized. There is precedence for capitalization of losses in the regulation of other industries. Electric utilities are allowed to capitalize the cost of capital incurred during a construction under Allowance for Funds Used During Construction (AFUDC) provisions. The FCC also has recognized this need by allowing COMSAT to capitalize its early losses.

A second issue in the valuation of intangible assets is the question of unrecovered return on investment. The unrecovered return on investment are costs a purchaser

avoids by buying an already developed and operating system. For a cable system that has been purchased, the unrecovered return on investment is part of the purchased intangible assets.

Like operating losses, the records of the previous owner are unlikely to explicitly detail unrecovered returns. The solution, as in the case of operating losses, is to estimate "normal" unrecovered return. A cable system would be evaluated as to type, size, and potential for houses passed and penetration. "Normal" unrecovered losses can then be developed. Evaluation of a number of different classes of cable systems would allow the development of a correspondence between cable system class and "normal" unrecovered return.

Unrecovered return is an issue for both cable systems which have never been sold and those which have. AFUDC, which is part of electric utility regulation, is a precedent for the capitalization of unrecovered return. In the case of cable systems, once operation is begun, there is no precedent for capitalizing unrecovered return on invested capital. To rationalize this disparity in treatment, one must recognize that the cable industry is fundamentally different. In fact, cable systems typically are new emerging businesses that cannot expect to recover a return on invested capital for at least the first two or three years after start-up or acquisition. The situation facing a public utility is quite different. Public utilities serve all the customers in their area (i.e., penetration is near 100 percent) when a new investment is brought on-line. In contrast, a cable system typically must wait several years until penetration is sufficient to generate a positive return (e.g., in the neighborhood of 60 percent). The failure of cable systems to recover a return on investment during the first few years after start-up or acquisition is not an indication of mismanagement. Instead, it is related to the nature of the business and the realization that time is needed to attain a profitable market share.

The most difficult task in valuing intangible assets is identifying the "residual" intangible assets or other going concern value. The value of this asset could be

estimated only for systems that were purchased. This intangible includes the value of having a workforce in place, an existing business organization, and other intangibles.[42] The franchise agreement also is part of other going concern value. In this case, the franchise agreement is valued as permission to build and operate a system as opposed to the price paid for the franchise.

Other going concern value would be defined to equal the purchase price of tangible assets at the time of purchase less:

- The market value of tangible assets at the time of purchase;
- The value of the subscriber list at the time of purchase;
- The value of the franchise at the time of purchase;
- The capitalized value of losses by the prior owner; and
- The capitalized value of unrecovered return on investment of the prior owner.

7.D. Depreciation/Amortization of the Rate Base

Depreciation rates for the cable television industry have been set in accordance with GAAP. Depreciation rates in the cable television industry tend to be somewhat higher than in the telecommunications industry, but this, at least in part, is a reflection of the historical and future anticipated rapid rate of technological change causing existing equipment to become obsolete (i.e., the economic lives of cable assets are significantly shorter than their physical lives). The finite life of a franchise also leads to a higher rate of depreciation for some assets. Cable system owners tend to try to

[42]Given the way the hypothetical in Attachment 1 is structured, these other intangibles were not valued.

recover (depreciate) their investment within the finite franchise period because, if the franchise is not renewed, investment recovery may not be possible.

At the current time, it would be best if the FCC could monitor but not set depreciation rates as suggested by the FCC (NPRM at ¶29). Older systems with older technology may need to apply a high rate of depreciation to reflect impending obsolescence. Newer systems, particularly those with fiber optic cable, will not be forced to use high depreciation rates.

7.E. Working Capital Definition

Overview

Cash working capital is included as an element of rate base to compensate investors for funds provided over and above the net utility plant in order for the company to operate as a going concern. Other components of working capital may include materials and supplies, prepayments, and bank compensating balance requirements. The amount of cash working capital must be sufficient to cover the lag between payment of expenses by the Company and the receipt of cash through rates from its customers. Cash working capital was intended to provide only for the current or day-to-day needs of the business and not for any of its long-term capital requirements. There exists no precise formula for calculating cash working capital, but instead it must be estimated by reference to one of the three methods which have been utilized by regulatory agencies. These methods are as follows:

FPC 45 Day Formula

The FPC 45 Day Formula was adopted by the old Federal Power Commission (FPC) in 1939. The formula has its basis in lead/lag studies which were performed during the mid- to late 1930s. The FPC formula assumes that the utility receives cash for services rendered 45 days after the midpoint of the service period. Working capital is calculated by multiplying operation and maintenance expenses (exclusive of depreciation, amortization and taxes) by 12½ percent (45 ÷ 365). The FPC 45 day

formula is still widely used, particularly for smaller utilities which do not have the resources to conduct lead/lag studies. In light of the FCC's desire for simplicity in the ratemaking process, we would urge its adoption for use by cable TV systems seeking cost of service rate relief.

Lead/Lag Studies

A fully developed lead/lag study involves the calculation of a revenue lag and offsetting expense lags. The net lag is multiplied by the utility's daily operating expenses to arrive at cash working capital. The revenue lag is comprised of three components: the service lag, the billing lag, and the collection lag. The service lag represents the number of days from the midpoint of the service period to the end of the service period. For most utilities which bill monthly, the service lag would be 15.21 days (365 ÷ 12 = 30.42 which is the length of the service period. The middle of the service period is 1/2 of its length or 15.21). The billing lag measures from lag from the day the meter is read, or the last day of the service period, until the customer's bill is placed in the mail. The collection lag is calculated by dividing the sum of the daily outstanding accounts receivable balances by the sum of the daily cash collections for a period of one year. The sum of the service, billing, and collection lags equals the revenue lag.

Expense lags are measured from the midpoint to the service period to the day the company releases the check to the vendor or makes a wire transfer. This would be the method used for expenses, such as rent, which are paid on a monthly basis. For services which are rendered on a particular date, or over a period of several days, the time period would be measured from the date the service was rendered, or from the midpoint of the dates the service was rendered, to the day payment is made.

The lead/lag study methodology is utilized by over 40 regulatory agencies and has received widespread regulatory acceptance for larger utilities. At the FERC and in some states, a lead/lag study is a requirement if the company makes a claim for cash working capital.